Report of PNT Advisory Board Working Group on PNT Augmentation

3 JUNE 2014

Candidate Space -Based Augmentations

- GNSS
  - GLONASS (Russia)
  - BEIDOU (China)
  - GALILEO (Europe)
- REGIONAL SYSTEMS
  - Quasi-Zenith (Japan)
  - IRNSS (India)

CANDIDATE NON-GNSS AUGMENTATIONS

- Fixed Users:
  - *Usually*, P,N not critical
  - T *is* critical (coms, data transfer, power)
  - Solutions:
    - Fiber optics
    - Precise Clocks
- Mobile Users:
  - P,N Critical
  - Solutions:
    - eLoran (Radio navigation system)
    - Inertial (Self-contained, requires initialization)
    - Local Systems (Locata, pseudolites)

BUT . . .

- GNSS Augmentations Require
  - Full transparency of operation
  - Adequate performance specs
  - Integrity monitoring that specs are met
- Non-satellite Augmentations
  - eLoran:
    - Provides somewhat reduced performance specs
    - Requires more extensive infrastructure
  - Inertial:
    - Accuracy is a function of time of operation
    - Quality is a function of cost.